



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,881	10/18/2001	Sandip Lahiri	AUS920010744US1	7332
56937	7590	11/15/2005	EXAMINER	
LENOVO, INC. c/o SIEGESMUND & ASSOCIATES 4627 NORTH CENTRAL EXPRESSWAY SUITE 2000 DALLAS, TX 75205			PATEL, NIRAV B	
		ART UNIT		PAPER NUMBER
		2135		
DATE MAILED: 11/15/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/981,881	LAHIRI, SANDIP
	Examiner Nirav Patel	Art Unit 2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 9/30/05 (amendments).
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4,6-9,11-13,16,18-21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4,6-9,11-13,16,18-21 and 23-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 October 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>n/a</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

### **DETAILED ACTION**

1. Applicant's amendment filed on September 30, 2005 has been entered. Claims 1-4, 6-9, 11-13, 16, 18-21, 23-26 are pending. Claims 5, 10, 14, 15, 17 and 22 are cancelled by the applicant and claims 1, 6, 7, 8, 9, 11, 12, 13, 16, 23 - 25 and 26 are also amended by the applicant.

### **Claim Objections**

2. Claims 6, 16 and 18 objected to because of the following informalities:

Claims 6, 16 and 18 are depend on cancelled claims, which is improper dependency. Appropriate correction is required.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-9, 11-13, 16, 21, 23-25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (US Pub. No. 2002/0101988) and in view of Kajiwara (US Pub. No. 2002/0061140).

As per claim 1, Jones teaches:

the original image can only be read by the authorized user viewing at a personal display screen connected to a personal display computer [*Fig. 7 paragraph (¶) 0031 lines 6-11 “the processor includes an authentication module 53” “a decryption module 55 which decrypts the image data according to an algorithm” lines 16-17 “decrypted image data is processed and sent to the glasses display 57”paragraph (¶) 0032] ;*

the computer and personal display computer are adapted for electronic communication so that the computer program causes the computer to transmit a parameter to the personal display computer [*paragraph (¶) 0032 “when a transaction at a kiosk 5 being, in step 100, a challenge 8 that appears on the kiosk display is read and digitized by OCR 51, which sends the information to the authentication module 53. In step 110, the authentication module 53 sends a prompt signal to the glasses display 57 requesting the client 2 to enter a pass-phase” paragraph 0033];*

the personal display computer uses the parameter to orient each of the screen segments and displays an undivided image on the personal display screen so that a user can view the original image on the personal display screen [*paragraph 0033 “In step 160, the decryption module 55 reads the sequence number, and selects the stored decryption scheme associated with the sequence number. The image data appearing on the kiosk screen 5 that is read and converted by the OCR 51 is sent to the decryption module which transform the data, in step 170, according to the*

decryption technique. The resulting decrypted data is then delivered to the glasses display 57 (step 180)]; and

wherein the original image is not visible at the computer screen [*paragraph 0005 lines 3-6 “to render encrypted images appearing on the display that are undecipherable to the naked eye, readable when the screen is viewed through the lenses”*].

Jones teaches encryption of image and the encrypted image is decrypted using the decryption module on the display glasses [**abstract**]. Jones doesn't expressively teach that dividing the image into an array of screen segments.

Kajiwara teaches that dividing the image into an array of screen segments (i.e. encoding, encrypting, ciphering) [*paragraph (¶) 0108 lines 6-7*]. Kajiwara teaches that using a computer program in a computer having a computer screen, dividing an original image on the computer screen into an array of screen segments [*Fig. 14, 15 paragraph (¶) 0102 lines 1-3, paragraph (¶) 0108 lines 6-8 “the tile dividing unit1401 divides each image into sixteen tiles as shown in Fig. 15” Fig. 3, Fig. 4B and Fig. 4C, paragraph (¶) 0051 lines 1-3, paragraph (¶) 0010 lines 4-6 paragraph (¶) 0059 lines 13-17 “The program code according to the flowchart is supposed to be stored in a memory (not shown) such as ROM or RAM of the image encoding apparatus in this embodiment, and read and executed by a CPU”*]; changing the orientation of each of the screen segment [*paragraph (¶) 0108 lines 6-11 “the tile dividing unit1401 divides each image into sixteen tiles as shown in Fig. 15 and then extracts a tile of the same position in each of the multi-level image*

**data and bi-level image data A, B and C, arranges the tiles” paragraph (¶) 0010  
lines 4-6 paragraph (¶) 0054 lines 1-5 paragraph (¶) 0057].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Kajiwara into the teaching of Jones to dividing the image into an array of screen segments. The modification would be obvious because one of ordinary skill in the art would be motivated to encode the data and decode the encoded data in order to display on the image display unit [Kajiwara, paragraph 0007, 0093].

As per claim 2, the rejection of claim 1 is incorporated. Jones discloses that changing the orientation (i.e. encrypting) of each of the screen segments is performed by *inversion* [paragraph (¶) 0029, lines 1-2 “Inversion of the text messages on a kiosk screen is illustrated in FIGS. 5 and 5a”].

As per claim 3, the rejection of claim 1 is incorporated and Kajiwara discloses that changing the orientation (i.e. encoding) of each of the screen segments is performed by *rotation* [paragraph (¶) 0057, lines 1-4 “two-dimensional discrete wavelet transform two more times only to the sub-band LL, the image is decomposed (i.e. rot or crumble) into seven sub-bands LL, LH1, HL1, HH1, LH2, HL2 and HH2 as shown in FIG. 5”].

As per claim 4, the rejection of claim 1 is incorporated and Kajiwara discloses that changing the orientation (i.e. encoding) of each of the screen segments is performed by shrinking [Fig. 4C (reducing the size of the image) *paragraph (¶) 0057, lines 1-4* “two-dimensional discrete wavelet transform two more times only to the sub-band LL, the image is decomposed (i.e. rot or crumble) into seven sub-bands LL, LH1, HL1, HH1, LH2, HL2 and HH2 as shown in FIG. 5”, *paragraph (¶) 0010, lines 4-6* “encoding image data to generate encoded data capable of expressing multiple self-similar images of different sizes corresponding to the image data”].

As per claim 6, the rejection of claim 1 or 4 is incorporated and Jones discloses that a personal display computer program in a memory of the personal display computer *determines* whether a codeword (i.e. sequence number or additional information data) has been received [*paragraph (¶) 0031, lines 12-14* “Memory module 54 stores information such as the sequence number of the transaction/authentication session, *paragraph (¶) 0032 lines 7-15* successful authentication confirms the sequence number stored in memory module 54”].

In addition, Kajiwara discloses that codeword (which is transmitted along with encoded image) [*paragraph (¶) 0011 lines 1-4*, “an additional information data (i.e. codeword) encoding means for generating encoded data of additional information data related to each of the multiple self-similar images”, *paragraph (¶) 0012 lines 1-5*, “an encoded data string generation means for generating an encoded data string including the encoded data generated by the image data encoding means

**and the encoded data generated by the additional information data encoding means”].**

As per claim 7, the rejection of claim 6 is incorporated and further Jones discloses:

responsive to a *determination* that a codeword has been received, the personal display computer program accesses a parameter from a personal display computer memory [paragraph (¶) 0033 lines 1-3, “In step 160, the decryption module 55 reads the sequence number, and selects the stored decryption scheme associated with the sequence number”].

As per claim 8, the rejection of claim 7 is incorporated and further Jones discloses:

responsive to accessing a parameter from the personal display computer memory [paragraph (¶) 0033 lines 1-3, “In step 160, the decryption module 55 reads the sequence number, and selects the stored decryption scheme associated with the sequence number”], a microprocessor in the personal display computer causes the orientation of each of the screen segments to be changed (i.e. decrypted image) so that the image can be read by viewing at the personal display screen [paragraph (¶) 0031, lines 7-11,16-18 “The processor includes an authentication module 53, which performs processing tasks similar to the tasks performed by the dongle 4 described above, and a decryption module 55 which decrypts the image data

according to an algorithm that corresponds to the encryption algorithm”, “decrypted image data is processed and sent to the glasses display 57” Fig. 7].

As per claim 9, Jones teaches:

transmitting a codeword to a personal display computer in the display glasses [paragraph 0032 lines 5-10 “In step 110, the authentication module 56 sends a prompt signal to the glasses display 57 requesting the client 2 to enter a pass-phrase. The client 2, enters a secret pass-phrase on the glasses keypad 58”]; responsive to receipt of the codeword by the personal display computer, accessing a parameter form a personal display computer memory [paragraph (¶) 0033 lines 1-3, “In step 160, the decryption module 55 reads the sequence number, and selects the stored decryption scheme associated with the sequence number”; and wherein the display glasses use the parameter to reorganize the scrambled image on the computer screen so that an authorized user can comprehend the image [paragraph 0032 lines 13-15 “Successful authentication confirms the sequence number stored in memory module 54” paragraph 0033 lines 4-7 “the decryption module which transforms the data, in step 170, according to the decryption technique. The resulting decryption data is then delivered to the glasses display 57 (step 180)].

the image can only be read by the person wearing a set of display glasses and the computer screen is incomprehensible to a normal viewer [Fig. 7 paragraph (¶) 0031 lines 6-11 “the processor includes an authentication module 53” “a decryption

**module 55 which decrypts the image data according to an algorithm” lines 16-17 “decrypted image data is processed and sent to the glasses display 57” paragraph (¶) 0032, paragraph (¶) 0006].**

Jones teaches encryption of image and the encrypted image is decrypted using the decryption module on display glasses [abstract]. Jones doesn't expressively teach that dividing the image into an array of screen segments.

Kajiwara teaches that dividing the image into an array of screen segments (i.e. encoding, encrypting, ciphering) **[paragraph (¶) 0108 lines 6-7]**. Kajiwara teaches that using a computer program in a computer, causing the computer to divide an image into an array of screen segments on the computer screen **[Fig. 14, 15 paragraph (¶) 0102 lines 1-3, paragraph (¶) 0108 lines 6-8 “the tile dividing unit1401 divides each image into sixteen tiles as shown in Fig. 15” Fig. 3, Fig. 4B and Fig. 4C, paragraph (¶) 0051 lines 1-3, paragraph (¶) 0010 lines 4-6 paragraph (¶) 0059 lines 13-17 “The program code according to the flowchart is supposed to be stored in a memory (not shown) such as ROM or RAM of the image encoding apparatus in this embodiment, and read and executed by a CPU” ];**

change the orientation of each of the screen segment **[paragraph (¶) 0108 lines 6-11 “the tile dividing unit1401 divides each image into sixteen tiles as shown in Fig. 15 and then extracts a tile of the same position in each of the multi-level image data and bi-level image data A, B and C, arranges the tiles” paragraph (¶) 0010 lines 4-6 paragraph (¶) 0054 lines 1-5 paragraph (¶) 0057].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Kajiwara into the teaching of Jones to dividing the image into an array of screen segments. The modification would be obvious because one of ordinary skill in the art would be motivated to encode the data and decode the encoded data that display on the image display unit [Kajiwara, paragraph 0007, 0093].

As per claim 11, the rejection of claim 9 is incorporated. This claim has limitations those are similar to limitations of claim 8, thus it is rejected with the same rationale applied against claim 8 above.

As per claim 12, this claim has limitations those are similar to limitations of claims 1 and 9, thus it is rejected with the same rationale applied against claims 1 and 9 above. In addition, Jones discloses:

a programmable processor [**Fig. 1 and 7 processor 12, processor 52**];  
a storage medium [**Fig. 1 and 7 storage module 15, memory module 54**]  
a program residing in the storage medium [**paragraph 0021 lines 11-12 “a sequence number is stored in storage module 15” paragraph 0031 lines 12-13 “memory module 54 stores information”**].

As per claim 13, this claim has limitations those are similar to limitations of claim 12, thus it is rejected with the same rationale applied against claims 12 above. In addition, Jones teaches:

wherein the personal display computer unscrambles the scrambled image so that the original image is display on a personal display screen connected to the personal display computer [paragraph 0006]; and

wherein the personal display screen has a frame adapted for wear by a user in the manner of glasses [Fig. 7].

As per claim 16, the rejection of claim 13 is incorporated and Jones discloses:

a processor and a personal display computer memory containing a computer program and plurality of parameters corresponding to a plurality of codewords so that upon receipt of a codeword by the personal display computer program, a parameter corresponding to the codeword can be retrieved from the memory and used by the processor to change the orientation of each of the screen segments [Jones, Fig. 7 component 52 (processor), 54 (memory) paragraph 0031 lines 12-13 “memory module 54 stores information such as the sequence number of the transaction/authentication session” paragraph 0033 lines 1-3 “the decryption module 55 reads the sequence number, and selects the stored decryption scheme associated with the sequence number”].

As per claim 21, the rejection of claim 13 is incorporated and further Jones discloses:

the display glasses further comprise a personal display screen and a personal display computer [**Jones, Fig. 7 component 57 and 52**].

As per claim 23, the rejection of claim 16 is incorporated and Jones discloses:

a plurality of code words corresponding to a plurality of parameters (to decrypt the encrypted image) [**Jones, paragraph (¶) 0033 lines 1-3**, “**the decryption module 55 reads the sequence number, and selects the stored decryption scheme associated with the sequence number**”].

As per claim 24, the rejection of claim 13 is incorporated. This claim has limitation that is similar to limitation of claim 2, thus it is rejected with the same rationale applied against claim 2 and further Jones teaches that encryption module may use Data Encryption Standard (DES) or various other encryption standards [**paragraph 0022 lines 18-22**].

As per claim 25, the rejection of claim 13 is incorporated. This claim has limitation that is similar to limitation of claim 3, thus it is rejected with the same rationale applied against claim 3.

As per claim 26, the rejection of claim 13 is incorporated. This claim has limitation that is similar to limitation of claim 4, thus it is rejected with the same rationale applied against claim 4.

4. Claims 18, 19 and 20 are rejected under 35 USC 103 (a) for being unpatentable over Jones in view of Kajiwara, and further in view of Kishida et al. (U.S. Pub. No. 2002/0015008).

As per claim 18, the rejection of claim 13 or 16 is incorporated and Jones teaches that the display glasses receive images appearing on an external screen that have been encrypted **[paragraph 0006]**. Kajiwara teaches that code output unit (207) and encoded data input unit (101) **[paragraph 0082, 0083 code output unit 207, encoded data input unit 101, for example an interface of network lines, or the like]**. Jones and Kajiware don't expressively mention that transmitter/receiver (i.e. communication interface).

Kishida discloses that the personal display computer further comprises a personal display computer transmitter/receiver **[Kishida, Fig. 1 component 23 communication interface]**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Kishida into the teaching of Jones and Kajiwara to have transmitter/receiver. The modification would be obvious because one of ordinary skill in the art would be motivated to have

Art Unit: 2135

transmitter/receiver (communication interface), which can be utilized for communicating with other devices.

As per claim 19, the rejection of claim 18 is incorporated and Kishida discloses:

the personal display computer transmitter/receiver uses a bluetooth technology[Kishida

**Fig. 4 component 113 Bluetooth module paragraph (¶) 0049, line 2**  
**“communication interfaces 13 and 23 using Bluetooth”].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Kajiwara into the teaching of Jones to use bluetooth technology. The modification would be obvious because one of ordinary skill in the art would be motivated to provide a degree of security for communications between bluetooth devices and to eliminate the hassle of cables.

As per claim 20, the rejection of claim 18 is incorporated and Kishida discloses:

the personal display computer transmitter/receiver uses a conventional wireless technology [Kishida Fig. 4 component 113 Bluetooth module **paragraph (¶) 0049 line 2** “communication interfaces 13 and 23 using Bluetooth (which is wireless technology)”].

### Response to Amendment

5. Applicant has amended claims 1, 6, 7, 8, 9, 11, 12, 13, 16, 23 - 25 and 26 which necessitated new grounds of rejection. See rejections above.

### Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Steenblik et al (US 5,715,316) discloses a method of encrypting and decrypting images comprising the step of creation of an encrypted image by alteration of the original image and decrypting the image by means of decrypting optic [Fig. 14c].

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936. The examiner can normally be reached on 8 am - 4:30 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Nirav Patel.*

11/2/05



KIM VU  
SUPERVISORY PATENT  
TECHNOLOGY CENTER